

REMARKS/ARGUMENTS

Claim Objections

In the Office Action, Examiner objects to claims 1-19 for informalities. Applicants have amended claims 1, 5, 6, 7, 9, 10, 17 and 18 to correct the informalities. These amendments should not be construed to further limit the scope of these claims. Applicants respectfully request that the objection to claims 1-19 be withdrawn and the claims formally allowed at this time.

Allowable Subject Matter

Examiner has indicated that claims 9-11 and 13-15 are objected to for being dependent on a rejected base claim, but would be allowable if rewritten in independent form. Applicant thanks Examiner for indicating the allowability of these claims.

Claim Rejections under 35 U.S.C. §103

In the Office Action, Examiner rejects claims 1-7, 12, and 16-19 under 35 U.S.C. §103(a) as being unpatentable over US Patent 2,683,972 to Atkinson (hereafter Atkinson) in view of US Patent 3,259,145 to Engle (hereafter Engle). Examiner has failed to provide a prima facie basis for rejection under 35 U.S.C. § 103(a) because there is no motivation to make the combination or modification proposed by the Examiner. MPEP §2143.01 states:

The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination.

Examiner states that Atkinson does not teach a plurality of primary gas cooling devices nor that the outlets of such are connected at regular

circumferential intervals to the tubular section of the secondary separation vessel. However, Examiner argues that it would be obvious to one skilled in the art to modify the system of Atkinson to include a plurality of vortex tubes. Examiner reasons that because a vortex tube provides colder temperatures as the flow rate through the cold outlet is decreased, adding additional vortex in parallel to the secondary separation system will improve the processing capacity of the system. For a rejection to be proper under 35 U.S.C. §103, the references must suggest the combination or modification proposed. The issue of need for motivation was decided by the Federal Circuit in *In re Kotzab*, 217 F.3d 1365, 55 USPQ2d 1313 (Fed. Cir. 2000)

A critical step in analyzing the patentability of claims pursuant to section 103(a) is casting the mind back to the time of the invention, to consider the thinking of one of ordinary skill in the art, guided only by the prior art references and the then-accepted wisdom in the field....Close adherence to this methodology is especially important in cases where the very ease with which the invention can be understood may prompt one "to fall victim to the insidious effect of a hindsight syndrome wherein that which only the invention taught is used against its teacher."

Atkinson does not suggest using more than one vortex tube or gas cooling device. Engle does not suggest using the plurality of vortex tubes mechanism described with a secondary separation vessel. Because neither reference teaches or suggests the combination, there is no discussion about how a plurality of gas cooling devices should be placed in relation to the secondary separation vessel. In fact Engle arguably teaches away from placing multiple gas cooling devices at circumferential intervals by suggesting that the plurality of vortex tube mechanisms be "arranged in rows with at least two mechanisms disposed in

each such row” in connection to the manifold assembly. See Figure 1 and claim 8.

Because there is no suggestion in the references to make the suggested combination or modification from claims 1 and 17, the rejection is unsupported by the art and should be withdrawn. Dependent claims 2-7, 12 and 16-19 depend from either claim 1 or claim 17 and include all the limitations of the independent claims. Thus, Applicants respectfully request that the rejection of claims 1-7, 12, and 16-19 under 35 U.S.C. §103(a) be withdrawn and the claims formally allowed at this time.

Conclusion

Applicants have addressed each and every objection and ground for rejection. The amended claims are patentable over the cited art and Applicants request that the application be allowed. In the event the Examiner has any questions or there are any issues with respect to the application, the Examiner is invited to call the undersigned at the telephone number below prior to the issuance of any written action.

Respectfully submitted,
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